

Serial No. 10/811,921

In the Claims:

Please cancel claims 1, 2, 6, 9, 10, 14, 17 and 19, please amend claims 3 and 5, and please add new claims 21 - 23 as follows.

1. (canceled)

2. (canceled)

3. (currently amended) In combination:

1 a laser array light source; and

2 a laser array imaging lens which receives light from the laser array light source, the laser array imaging lens comprising, in order from the light-source side, without any intervening lens component:

3 a first lens component; and

4 a second lens component, one lens surface of which is aspheric;

5 wherein

6 at least one lens surface of the laser array imaging lens is formed with an anamorphic, 7 aspheric surface; and

8 the following condition is satisfied

9 $0.5 < L / (D_{21} \cdot (1 - 1/M)) < 2.0$ 10 $0.8 < L / (D_{21} \cdot (1 - 1/M)) < 1.7$

11 where

12 L is the distance from the laser array light source to the light-source-side surface of the 13 first lens component of the laser array imaging lens;

14 D_{21} is the distance from the image-plane-side surface of the first lens component to the 15 position where the central rays of the beams from the laser elements intersect the 16 optical axis; and

17 M is the image magnification.

Serial No. 10/811,921

1 4. (original) The combination according to claim 3, wherein a stop is positioned on the image-
2 plane side of the first lens component at a specified distance.

1 5. (currently amended) An image-forming device that includes the laser array imaging lens
2 according to claim 1, a laser array imaging lens having, in order from a light-source side, without
3 any intervening lens component:

4 a first lens component; and

5 a second lens component;

6 and further comprises:

7 a laser array light source made by arraying multiple light emitting elements in one or
8 more rows;

9 means for independently modulating the individual light emitting elements of the laser
10 array light source, based on a prescribed signal;

11 means for relatively moving a surface to be scanned, that is positioned substantially at an
12 image surface of the laser array imaging lens, in a sub-scanning direction that is roughly
13 perpendicular to the direction of the image dots that form one or more rows at the image surface;
14 wherein

15 said first lens component functions to refract light rays that are emitted at the center of
16 each luminous flux from each of said light emitting elements so that the light rays cross the
17 optical axis and intersect in a common region;

18 said second lens component is arranged to receive the light rays that have crossed the
19 optical axis in the common region;

20 at least one lens surface among the lens surfaces of the first lens component and the
21 second lens component being an aspheric surface; and

22 at least one lens surface of the laser array imaging lens is formed having a diffractive
23 optical element with a phase function either superimposed thereon or is provided as a separate
24 surface.

Serial No. 10/811,921

6. (canceled)

1 7. (original) An image-forming device that includes the combination according to claim 3, and
2 further comprises:

3 means for independently modulating the individual light emitting elements of the laser
4 array light source, based on a prescribed signal;

5 means for relatively moving a surface to be scanned and that is positioned substantially at
6 the image surface of the laser array imaging lens, in a sub-scanning direction that is roughly
7 perpendicular to the direction of imaged light spots that form one or more rows at the image
8 surface.

1 8. (original) An image-forming device that includes the combination according to claim 4, and
2 further comprises:

3 means for independently modulating the individual light emitting elements of the laser
4 array light source, based on a prescribed signal;

5 means for relatively moving a surface to be scanned and that is positioned substantially at
6 the image surface of the laser array imaging lens, in a sub-scanning direction that is roughly
7 perpendicular to the direction of the imaged dots that form one or more rows at the image
8 surface.

9. (canceled)

10. (canceled)

1 11. (original) The combination according to claim 3, wherein the first lens component consists
2 of a single lens element.

Serial No. 10/811,921

- 1 12. (original) The combination according to claim 4, wherein the first lens component consists of
2 a single lens element.
- 1 13. (original) The image-forming device according to claim 5, wherein the first lens component
2 consists of a single lens element.
14. (canceled)
- 1 15. (original) The image-forming device according to claim 7, wherein the first lens component
2 consists of a single lens element.
- 1 16. (original) The image-forming device according to claim 8, wherein the first lens component
2 consists of a single lens element.
17. (canceled)
- 1 18. (original) The combination according to claim 4, wherein the stop is positioned so that the
2 laser array imaging lens is substantially telecentric on the light-source side.
19. (canceled)
- 1 20. (original) The image-forming device according to claim 8, wherein the stop is positioned so
2 that the laser array imaging lens is substantially telecentric on the light-source side.
- 1 21. (new) The image-forming device of claim 5, wherein said common region is substantially at a
2 point on the optical axis of the laser array imaging lens.
- 1 22. (new) In combination:

Serial No. 10/811,921

2 a laser array light source; and
3 a laser array imaging lens which receives light from the laser array light source, the laser
4 array imaging lens comprising, in order from the light-source side, without any intervening lens
5 component:

6 a first lens component; and
7 a second lens component, one lens surface of which is aspheric;
8 wherein the following condition is satisfied

$$0.8 < L / (D_{21} \cdot (1 - 1/M)) < 1.7$$

9 where

10 L is the distance from the laser array light source to the light-source-side surface of the
11 first lens component of the laser array imaging lens;

12 D₂₁ is the distance from the image-plane-side surface of the first lens component to the
13 position where the central rays of the beams from the laser elements intersect the
14 optical axis; and

15 M is the image magnification.

16 23. (new) An image-forming device that includes a laser array imaging lens having, in order
17 from a light-source side, without any intervening lens component:

18 a first lens component; and
19 a second lens component;
20 and further comprises:

21 a laser array light source made by arraying multiple light emitting elements in one or
22 more rows;

23 means for independently modulating the individual light emitting elements of the laser
24 array light source, based on a prescribed signal;

25 means for relatively moving a surface to be scanned, that is positioned substantially at an
26 image surface of the laser array imaging lens, in a sub-scanning direction that is roughly

Serial No. 10/811,921

12 perpendicular to the direction of the image dots that form one or more rows at the image surface;
13 wherein

14 said first lens component functions to refract light rays that are emitted at the center of
15 each luminous flux from each of said light emitting elements so that the light rays cross the
16 optical axis and intersect in a common region;

17 said second lens component is arranged to receive the light rays that have crossed the
18 optical axis in the common region; and

19 at least one lens surface among the lens surfaces of the first lens component and the
20 second lens component being an aspheric surface.